

# Notice of Allowability

Application No.

10/692,879

Examiner

William L. Boddie

Applicant(s)

SUN, CHEAH CHIANG

Art Unit

2629

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/3/06.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                                 |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|  | 9. <input type="checkbox"/> Other _____.  |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with the Applicant's representative, Calvin Ward on December 5<sup>th</sup>, 2006.

The application has been amended as follows:

Claim 1: A pointing device comprising:

an elongated body having a transparent end adapted for movement over a surface;

an illumination subsystem that illuminates said surface in an area adjacent to said transparent end;

an imaging subsystem that forms images of a portion of said surface in said area;

a reference mark system that defines a direction that is independent of the rotations of said elongated body and measures the orientation of said elongated body relative to said direction; and

a controller that periodically compares two of said images by rotating one of the two said images by a rotational value, said comparison and rotational value depending on the amount by which said elongated body rotated between said images as determined from said orientation.

Claim 2: A pointing device comprising:

an elongated body having a transparent end adapted for movement over a surface;

an illumination subsystem that illuminates said surface in an area adjacent to said transparent end;

an imaging subsystem that forms images of a portion of said surface in said area;

a reference mark system that defines a direction that is independent of the rotations of said elongated body; and

a controller that periodically compares two of said images by rotating one of the two said images by a rotational value, said comparison and rotational value depending on the amount by which said elongated body rotated between said images,

wherein said reference mark system comprises:

a disk that is free to rotate about an axis through said disk, said disk comprising a reference mark that is displaced from said axis, said disk having an orientation mechanism that maintains said disk in a fixed orientation relative to the earth; and

a sensor for determining the location of said reference mark relative to said elongated body.

### ***Allowable Subject Matter***

2. The following is an examiner's statement of reasons for allowance: With respect to claims 1 and 2, the prior art teaching of Badyal discloses, a pointing device, an elongated body, an illumination subsystem, an imaging subsystem, and a controller that compares two of said images by shifting the images up/down/left/right one pixel.

The prior art teaching of Howard discloses a reference mark system that is independent of the rotations of an elongated body. The reference mark system comprises a disk that maintains the disk in a fixed orientation to earth, and a sensor to determine the rotation of the disk.

However, none of the prior art taken alone or in combination sufficiently discloses, in addition to the limitations of the independent claims, that a controller periodically compares two of the images by rotating one of the two images by a rotational value, the comparison and rotational value depending on the amount by which the elongated body rotated between said images as determined from said orientation.

As claims 3-6 are dependent upon claim 2, they are allowable at least for the reasons shown above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William L. Boddie whose telephone number is (571) 272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wlb  
12/7/06

AMR A. AWAD  
SUPERVISORY PATENT EXAMINER

